

COMMENTS ON THE PROPOSED CONSERVATION OF *RANA*
SPHENOCEPHALA COPE, 1886. Z.N.(S.) 2141
(see vol. 33, pp. 195–203; vol. 34, pp. 199–200)

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I wish to oppose Brown, Smith & Funk's proposal to suppress *Rana utricularia* Harlan, 1826, because I believe they are attempting to find approval for their interpretation of a biological problem by disguising it as a nomenclatural problem.

There are many researchers intimately involved with the '*pipiens*' problem. While I am no authority on it, I believe the Commission must be informed of both sides of the issue.

The core of the issue revolves around the biological status of the Florida populations of *pipiens*-complex frogs. Professor Brown and his followers deny their uniqueness; Dr Pace and her followers recognise the possibility of differentiation of the Florida populations from the adjacent southeastern United States populations. Brown et al. argue that since the Florida populations are not distinct, the name *sphenocephala* should be used for all the southeastern populations, largely owing to its previous use as a subspecific and specific epithet. Such usage would obtain a degree of nomenclatural stability, but probably only temporarily and at the expense of greater nomenclatural confusion in the future. If in the future they are shown to be incorrect about the absence of differentiation of the Florida populations (i.e. about half the peninsular herpetofauna is recognisably distinct, either subspecifically or specifically, from its southeastern relatives), *sphenocephala* will be restricted to the Florida populations, since *utricularia* and *virescens* will have been suppressed. Such future confusion can be avoided by refusing to act on nomenclatural issues in which the biological aspects remain unresolved and controversial.

Brown et al. also oversimplify the stability of the *pipiens*-complex nomenclature among experimental biologists. These frogs have been widely used by experimentalists during this century and largely referred to as "*Rana pipiens*". Fortunately, in many cases this assignment of the name was correct, since the frogs were purchased from suppliers in the northern United States and Canada. The frogs of the southeast have been called *pipiens* as often as *sphenocephala*, even when the latter epithet was used to designate a distinct species for slightly over two decades in the 1920's and 1930's. However, these frogs represent a relatively small fraction of the '*pipiens*' frogs.

Any biologist concerned with the reproducibility of his results must precisely identify the locality of his '*pipiens*', while to compare his results with preceding investigations he will need to know the precise localities of the '*pipiens*' of those investigations. These needs are as necessary now as they were a decade ago and will be a decade in the future, for in spite of Bagnara & Frost's notification (*Science*, vol. 197, p. 106) to experimentalists of the specific differences between many of the '*pipiens*' populations, many experimentalists have continued to use the epithet *pipiens* indiscriminately. The problem of a '*pipiens*' frog's identification has been compounded in the past decade by the population crashes in most of the source area for many wholesale frog suppliers. Some of these dealers — either through

ignorance or dishonesty — were supplying experimentalists with frogs from the southeast and/or Mexico and calling them all *pipiens*. In some cases the shipments would contain a mixture of as many as four species of the *pipiens* complex. Unwittingly, the experimentalists published their results as derived from a single species, *pipiens*.

The timing of Brown et al's proposal was ill chosen. Conant published his field guide to the eastern North American herpetofauna in 1975 and he used *utricularia*. Conant's guides are held in very high esteem and are used widely by zoologists other than herpetologists. Thus *utricularia* began to receive immediate use and continues to appear commonly, for outside of a handful of systematic herpetologists, few biologists know that a discussion persists on the usage of *sphenocephala* or *utricularia*.

I favour the rejection of Brown et al's proposal. It does not now and will not in the future bring nomenclatural stability for the southeastern *pipiens*-complex frogs. The status of the latter must be decided by scientific enquiry and discussion.

The map (fig. 1) is taken from Wright & Wright, 1949, *Handbook of Frogs and Toads*. It portrays the consensus of opinion for the recognisable populations of the *Rana pipiens* complex and their distributions during the late 1920's to late 1950's. At the latter date, zoologists became aware that the known discrepancies in developmental rates and behaviour, as well as in other natural history parameters, reflected the presence of an unsolved biological problem. The superimposed distribution map depicts the current resolution of the '*pipiens*' problem. The problem is by no means solved. Note the gap between the ranges of *pipiens* and *utricularia* in the eastern United States: leopard frogs live there, but their specific placement remains uncertain. This is equally true of the southwestern frogs, and the difficulty is compounded by the existence of high-altitude 'races'. The most recently described *pipiens*-complex frog is *magnaocularis* Frost & Bagnara, 1976, from western Mexico. It is sympatric with *berlandieri forrei*, which is strikingly different from and allopatric of the eastern Mexican *berlandieri*.

I have also plotted the Suwannee Straits (a prehistoric waterway of uncertain age and duration) which closely matches the northern limits of peninsular anurans or the southern limits of southeastern anurans. Nine of the twenty peninsular frogs have the straits as an intergradation zone or range limit. Pace's 1974 data (*Misc. Publ. Mus. Zool. Univ. Michigan*, vol. 148) indicate the same boundary for *R. u. utricularia* and *R. u. sphenocephala*.

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I strongly oppose the suggestion that *Rana utricularia* Harlan, 1826, be suppressed. Specifically:

(1) The argument for suppression is based on inconclusive comments on the status of leopard frog populations in Florida. (2) Suppression of a name at this time is unwarranted and premature. The status of the leopard frogs in the United States is under rigorous investigation in several laboratories (e.g. University of California, Berkeley, and University of Arizona, Tucson); any name changes or suppressions at this time would only add confusion.

The proposal by Brown et al seems to me impulsive and ill founded. Considering that many non-systematists use leopard frogs in their research, it could